

# Savannah River Site strategic plan

THIS WAY TO THE FUTURE

May 2010



U.S. DEPARTMENT OF  
**ENERGY**

Savannah River Site

# Our Vision

The Savannah River Site vision is to be a long term national asset; to be effectively employed in the service of the nation in the areas of national security, energy independence, innovative technology and environmental stewardship; and be viewed with confidence by the public.

The people of the Savannah River Site (SRS) continue to play a vital role of service to our nation. Our work advances the goals of the U.S. Department of Energy (DOE) to protect and improve the quality of life for all Americans, namely by contributing to the national defense, reducing nuclear dangers, protecting and restoring the environment, expanding scientific knowledge and application, and preparing to serve the energy needs of the future. For nearly 60 years SRS has risen to meet the challenges set before us and our vision is to continue to build on that legacy far into the future.

SRS is a national asset. The Environmental Management (EM) and National Nuclear Security Administration (NNSA) Federal staff oversees the work of Savannah River Nuclear Solutions, Savannah River Remediation, Parsons, Shaw Areva MOX Services, the WSI-SRS Team, the U.S. Army Corps of Engineers, the USDA Forest Service—Savannah River (USFS-SR), the Savannah River Ecological Laboratory (SREL), and the many workers who are advancing our environmental cleanup goals through the American Reinvestment and Recovery Act (ARRA). Staff from the South Carolina Department of Health and Environmental Control, the Defense Nuclear Facilities Safety Board, and the Nuclear Regulatory Commission are either resident on Site or regular visitors fulfilling their regulatory and advisory duties. The Savannah River National Laboratory (SRNL) provides technical innovations and solutions for SRS missions and serves diverse national interests at other DOE sites and for other federal agencies. EM is assigned by DOE as the Site landlord, responsible for managing critical support functions that serve all DOE missions and tenants at SRS. We are all working together to integrate and optimize efforts to accomplish SRS missions.

While SRS has a sound record of accomplishments, we still have much to contribute. The talented and skilled people of SRS will aggressively complete the implementation of cleanup solutions that resolve the nuclear waste legacy. We will continue to serve as the gateway for nationwide nuclear materials consolidation and ultimate disposition. We will continue the tritium recovery mission that is vital to our nation's defense. We will contribute to the nation's energy needs by converting nuclear materials for production of electricity and through research on hydrogen technology and development of biotechnology and renewable energy sources. We will continue to grow the contributions of SRNL to a wide range of environmental, energy and national security needs. And we will continue to transform SRS for future missions that effectively utilize our physical, technological and human assets.

This strategic plan has been prepared with key input from SRS organizations. The plan's goal is to outline how SRS contributes to the DOE strategic goals by communicating current EM and NNSA Site missions and supporting Site operations as well as the vision of the future. The strategic plan also identifies high level assumptions and strategic objectives, providing guidance to Site program and operating plans.



## A message from Jack Craig

Acting Manager

U.S. Department of Energy—  
Savannah River  
Operations Office

# Introduction

## Changes from 2009 Plan



This document represents a sharpened focus on broad Site strategies, placing program and operational detail at more appropriate lower level Site plans and schedules. A primary objective in developing the 2010 SRS Strategic Plan was to make it more strategic in nature, i.e., to address broad, foundational directions and strategies. This shift in emphasis reduced the overall size of the plan and has resulted in bringing more focus on a smaller number of strategic objectives.

The 2010 revision of the strategic plan also reflects DOE's alignment of previous strategic themes with the strategic goals of the new Administration and Secretary of Energy. Other important new elements for 2010 are inclusion of the acceleration of environmental cleanup made possible by ARRA funding and addition of a perspective on the life cycle of current missions and transitioning the Site for the future.

The changes to the 2010 SRS Strategic Plan provide a clear focus on the primary missions of the Site and each mission's strategic direction and objectives. It also sets the stage for inclusion of details previously contained in the 2009 Plan in other implementing plans.

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## DOE Strategic Goals and Purpose

The vision of DOE is to develop transformative energy, science and security solutions that are material, timely and cost effective.

The strategic goals of DOE are:

### Goal 1

**Maintain U.S. global leadership in science and engineering:**

Investing in science, discovery and innovation to provide solutions to pressing energy challenges

### Goal 2

**Build a competitive and sustainable clean energy economy to secure America's energy future:**

Providing clean, secure energy and promoting economic prosperity through energy efficiency and domestic forms of energy

### Goal 3

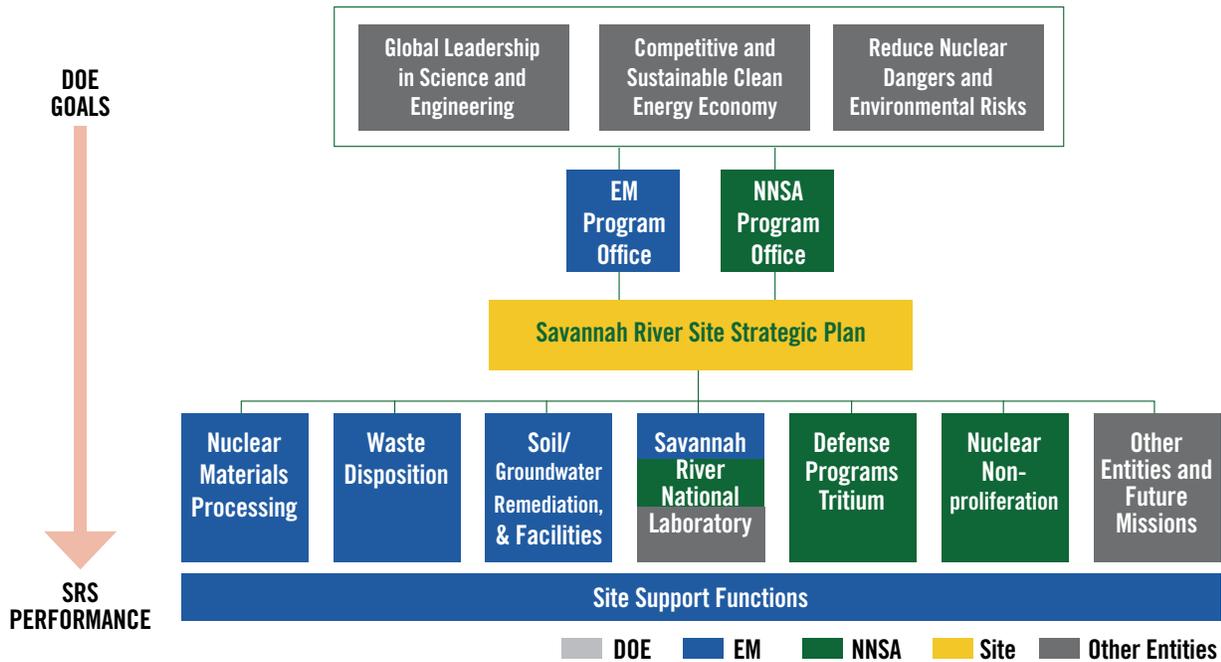
**Reduce nuclear dangers and environmental risks:**

Safeguarding nuclear and radiological materials, advancing responsible legacy cleanup and maintaining nuclear deterrence

Achievements in these areas will be enabled and driven by a continued commitment to improve the management and fiscal performance of the Department, transforming the culture with a results-oriented approach.

To further emphasize the commitment to energy efficiency, the Secretary also announced an Executive Order to reduce DOE's greenhouse emissions by 28 percent by 2020.

The purpose of the SRS Strategic Plan is to outline how SRS contributes to the DOE strategic goals by communicating current EM and NNSA Site missions and supporting Site operations as well as the vision of the future. The Strategic Plan also identifies the high level assumptions and strategic objectives, providing guidance to Site program and operating plans.





Tritium Facilities



Sorting transuranic waste

## Site Missions and Capabilities

There are presently four primary missions at SRS: EM responsibilities for cleaning up the Cold War legacy and preparing for long-term stewardship, NNSA Defense Programs, NNSA Nuclear Nonproliferation Programs and SRNL.

Based on current funding, the EM mission comprises the largest effort at SRS. As EM successfully accomplishes its mission requirements, it will likely have a decreasing presence at SRS, while other missions, including the Legacy Management mission, will increase in significance. Nevertheless, because of the size of the Site and the magnitude of the tasks, EM will continue to play a significant role long into the future.

SRNL, also located at SRS, is a multi-program national laboratory which provides support for SRS, other federal agencies and DOE Complex-wide missions. SRNL's heritage of applying science to meet the needs of DOE and the nation distinguishes it from the other DOE national laboratories. This unique position enables SRNL to lead the nation in translating basic research into practical application. In addition, SRS is home to SREL, which evaluates the ecological effects of Site operations and performs basic and applied ecological research. Also, SRS natural resources are managed by the USFS-SR.

SRS has nearly 60 years of experience as a large scale operations facility with world class research and development capability. The Site's physical assets combined with the exceptional technical knowledge and "can do" culture of the workforce has produced a legacy of achievement with unmatched safety and mission performance, which includes:

- Established leader in Integrated Safety Management including SRNL, the safest national laboratory in the DOE Complex for six consecutive years (2004-2009)
- Unique combination of applied national laboratory and production culture, with historical linkage of technology development and plant capabilities
- Large contiguous, secure, extensively characterized Site to support current and new missions and technology demonstration projects
- Robust nuclear infrastructure and knowledge/experience base covering the full range of nuclear fuel cycle and national security missions
- Only tritium extraction/handling facility in U.S.; nation's primary tritium management capability and tritium/hydrogen technical expertise
- Only operating large scale radioactive waste vitrification facility in the U.S.
- Strong stakeholder and community support for current and new missions, including nuclear operations; excellent working relations with regulators and established collaborations with educational institutions and industry
- High investment in clean up resulting in significant risk and footprint reduction to support potential future land use

This combination of attributes makes SRS an attractive location for supporting a wide range of DOE and other national needs.

## Planning Assumptions

The following assumptions address key expectations regarding the future direction of SRS missions, land and facilities, and functional capabilities. These assumptions provide strategic guidance for the SRS planning process.

### **SRS is a national asset**

which will endure beyond current EM and NNSA missions.

### **SRS will maintain**

its current physical boundary of 310 square miles.

### **SRS will maintain its leadership role**

in safety, security and protection of people, facilities and the environment while maintaining excellent community, political and regulatory support.

### **SRS will maintain and focus**

on effective application of its unique core capabilities: cleanup expertise, safe and secure storage capability, nuclear material processing, used fuel management, large scale vitrification processing, tritium extraction and processing, and national laboratory leadership.

### **SRS will continue to effectively accomplish**

its current national missions while accelerating legacy environmental cleanup and creating or saving thousands of jobs through the 2009 ARRA.

### **SRS will complete construction and establish operation**

of facilities for Salt Waste Processing, Mixed Oxide Fuel Fabrication, Waste Solidification, Pit Disassembly and Conversion, and Plutonium Preparation in support of environmental cleanup and nuclear nonproliferation objectives.

### **SRNL will continue to support**

current EM and NNSA missions and will grow as a multi-program national laboratory.

### **Infrastructure assets and critical support functions**

will be maintained and upgraded to support current and future missions.

### **SRS will continue to support**

its designation as a National Environmental Research Park.

### **SRS will support DOE's strategic goals**

in the establishment of missions which most effectively utilize the Site's unique assets and capabilities in the national interest.



*Safely working at SRS*



*Accelerating legacy cleanup at SRS*

# Environmental Management Mission

*The EM Mission is to safely and efficiently cleanup the environmental legacy of our nation's nuclear weapons program at SRS to protect public health and the environment and transform the Site for the future.*

The EM Program provides a responsible resolution to the legacy of nuclear weapons production in order to protect human health and the environment.

The EM work at SRS is clearing the way for future missions at SRS. The SRS EM Program is delivering measurable progress and meaningful near-term results on the massive challenge of completing the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development, production and government sponsored nuclear research. Goals for EM at SRS include:

- Maintain a safe and secure posture at SRS
- Maintain compliance with all agreements with state and federal regulatory agencies



Salt Waste Processing Facility construction

## Liquid Waste Disposition

The primary potential threat to human health and the environment at SRS is the approximately 37 million gallons of highly radioactive liquid waste stored in large underground tanks.

EM's goal at SRS is to reliably complete radioactive liquid waste treatment, safely manage the treated waste and meet DOE commitments to close the liquid waste tanks, while incorporating new technology and to enhance efficiency as we go. In so doing, EM is closing the circle on a legacy of radioactive liquid waste.

The insoluble sludge solids from tank waste are vitrified at the Defense Waste Processing Facility (DWPF) and converted into a solid glass form. The stabilized glass is safely stored in stainless steel canisters on Site until a decision is made on the final disposition. Thus far, more than 2,900 canisters of vitrified waste have been produced.

SRS has successfully initiated the first radioactive salt waste processing and disposition capability in the DOE Complex. The Actinide Removal Process (ARP) and the Modular Caustic Side Solvent Extraction Unit (MCU) remove radioactive components in the salt waste stored in the radioactive liquid storage tanks. ARP/MCU provide an interim salt processing capability until the high-capacity Salt Waste Processing Facility becomes operational in 2013.

Design is nearing completion and construction has begun on a high capacity Salt Waste Processing Facility that will remove almost all the radioactivity from salt waste in SRS tanks. The removed radioactive component of the waste will be vitrified at DWPF for disposition off-site. This will enable cost effective conversion of the remaining decontaminated liquids from the tank waste to "saltstone" for safe onsite disposal.

The Tank Closure Program at SRS has made significant progress. Tank Closure Program activities are on schedule to meet all Federal Facility Agreement commitments including bulk waste removal complete in two tanks in September 2010; H Tank Farm Performance Assessment in March 2011; bulk waste removal complete in one tank in September 2011; and closing two tanks in December 2012.



Canisters at DWPF

## Strategic Objectives

- Remove radioactive liquid waste from underground tanks, significantly reducing the greatest risk to health and the environment, and preparing tanks for operational closure
- Process radioactivity from tank waste into DWPF glass canisters for final disposal out of state and dispose of chemical constituents from tanks in grout in the on-site Saltstone Disposal Facility
- Develop alternative approaches that maximize risk reduction for tank waste disposition

## Consolidating and Processing Nuclear Materials

SRS's unique facilities and capabilities enable it to support consolidation and processing of nuclear materials from other locations (other DOE facilities as well as other U.S. and foreign sources). This is important for reducing nuclear and proliferation threats, avoiding the additional costs of protecting materials at multiple sites and enabling other facilities that are no longer needed to close.

There is a significant inventory of surplus nuclear materials at SRS (plutonium, enriched uranium, other special nuclear materials and spent nuclear fuel) that can continue to be safely and securely stored pending disposition to meet commitments to the State of South Carolina. However, SRS has existing capabilities which can be utilized to recover the nuclear materials for beneficial reuse. H Canyon will continue chemical separation operations to stabilize the remaining inventory of highly enriched uranium (HEU) materials located at SRS or to be shipped to SRS. The HEU is being blended with natural uranium to form low-enriched uranium (LEU) and is being transported to an off-site facility where it is used to make fuel for commercial nuclear power reactors. Spent Nuclear Fuel will also be processed through H Canyon, the enriched uranium recovered and down blended to low enriched uranium and shipped offsite to the Tennessee Valley Authority for use as a reactor fuel.



H Canyon

## Strategic Objectives

- Work in collaboration with NNSA to develop and implement comprehensive and long-term plans for consolidation, safe storage and disposition of plutonium
- Utilize unique facilities and capabilities at SRS to process excess nuclear materials and spent nuclear fuel for reuse (e.g. commercial power reactors) or provide safe storage pending disposition
- Develop alternative approaches that maximize risk reduction of excess nuclear materials and spent nuclear fuel



TRU waste handling

## Solid Waste Disposition

EM's goal at SRS is to complete the disposition of the remaining legacy waste by shipment for off-site disposal. The goal also includes avoiding accumulation of newly generated waste from current missions at SRS. The scope of solid waste disposition includes transuranic (TRU), hazardous (HW), mixed low-level (MLLW), low level (LLW), and sanitary wastes.

It is anticipated that the disposition of nearly all legacy solid wastes will be completed by 2012.



Waste shipment leaving SRS

## Strategic Objectives

- Complete disposition of solid radioactive legacy waste and minimize newly generated waste
- Complete consolidation of wastes for treatment processing into new storage facilities in compliance with the Resource Conservation and Recovery Act



*P Area cask car remediation work*



*Work on liquid waste tanks*



*P Area Ash Basin land clearing  
and wood chipping*

## Area Completion Project

EM's goal at SRS is to remediate soil and groundwater for 515 waste units and safely decontaminate and decommission 985 excess facilities to protect human health and the environment.

EM has been given the responsibility to accelerate existing environmental cleanup goals with 2009 ARRA funding. Through these efforts, the EM footprint at SRS will be reduced by approximately 67 percent in the near term to provide additional land that could be available for other projects and uses.

Cost effective technology deployment, the use of removal actions and disciplined project management are accelerating the cleanup of contaminated groundwater, soils and excess facilities. The Area Completion Strategy is being used to address all cleanup activities in 14 large industrial geographic areas as one integrated action to cost effectively complete cleanup of entire areas. Closing large structures in-situ (such as the former reactors located in P and R Areas) as part of the Area Completion Strategy is dramatically reducing the cost of cleanup, shortening the project schedules and reducing surveillance and maintenance costs.

## Strategic Objectives

- Utilize funding from 2009 ARRA to accelerate the EM cleanup mission and achieve industrial footprint reduction of 67 percent by the end of 2011, while creating or saving more than 3,000 jobs
- Clear large areas of the Site for potential future use with large-scale, integrated actions for addressing contaminated soils and groundwater remediation and facility deactivation and decommissioning
- Close large buildings in place (i.e. in situ) following removal of contaminant sources

## NNSA Missions

NNSA has the responsibility to promote national security by applying advanced science and nuclear technology to the nation's defense.

Two NNSA missions are supported at SRS: Defense Program Nuclear Weapon Stewardship and Nuclear Nonproliferation. The first mission ensures the nation's nuclear weapons continue to serve their essential deterrence role by maintaining and enhancing the safety, security and reliability of the U.S. nuclear weapons stockpile. The second mission provides technical leadership to limit or prevent the spread of materials, technology and expertise relating to weapons of mass destruction, advance the technologies to detect the proliferation of weapons of mass destruction worldwide, and eliminate or secure inventories of surplus materials and infrastructure usable for nuclear weapons.

### Defense Programs

The SRS Tritium Facilities are designed and operated to extract, process and supply tritium, a radioactive form of hydrogen gas that is a vital component of nuclear weapons. These facilities are part of the NNSA's Defense Programs operations at SRS.

Tritium processing involves a number of key operations, including receipt, packaging and shipping of reservoirs; recycling, extraction, and enrichment of tritium gas; and laboratory operations. The SRS Tritium Facilities consist of two primary active process buildings. The H Area New Manufacturing Facility (HANM) serves to consolidate tritium processing and handling activities, including reservoir loading and unloading. HANM began operations in 1994 and was upgraded in 2004. The second and newest process building—the Tritium Extraction Facility—incorporates new tritium extraction technology into the process. It became fully operational in early 2007.

### Defense Programs Strategic Objectives

#### Science, Technology, and Engineering

Defense Programs will provide its expertise on hydrogen isotopes and helium 3 (He3) to the broad scientific communities by:

- Leveraging tritium knowledge and resources to support Inertial Fusion Energy research through the support of the National Ignition Facility
- Developing partnerships with the scientific community to exchange new research on tritium, deuterium, hydrogen, and He3
- Becoming the premier hub for applied hydrogen research, specifically hydrogen isotopes separation and storage technology

#### Infrastructure and Resources

Defense Programs will align its science, engineering, capital, and human resources to provide safety, security and effectiveness to nuclear operations across the Nuclear Security Enterprise as well as to support commercial nuclear energy operations. This includes:

- Transforming the infrastructure to support modern stockpile stewardship requirements as well as to reduce energy usage, greenhouse gases, and nuclear waste associated with Stockpile Stewardship and Management
- Leading the Nuclear Security Enterprise in governance reform by rethinking the corporate management structure, supply chain, procurement, etc.

*The Defense Programs Mission is to ensure safe, secure, and reliable delivery of tritium services in a manner that meets Defense Program Stockpile Stewardship requirements and proactively implements the Complex Transformation strategies.*



*Gloveboxes in the Tritium Facilities*

#### Nuclear Stockpile Management

Defense Programs will continue to support the national security by:

- Maintaining and supporting U.S. nuclear weapons stockpile to meet national security requirements
- Serving as the nation's primary supplier of He3 and tritium

## NNSA Nuclear Nonproliferation

*The Nuclear Nonproliferation Mission is to enhance national security through the detection, prevention, and reversal of proliferation of weapons of mass destruction worldwide.*



MOX construction



L Basin receives spent nuclear fuel

NNSA Nuclear Nonproliferation Programs at SRS include Fissile Materials Disposition; Nonproliferation and Verification Research and Development; Nonproliferation and International Security; International Nuclear Materials Protection and Cooperation; and the Global Threat Reduction Initiative.

The primary goal of the Fissile Materials Disposition Program is to dispose of 34 metric tons of surplus weapons-grade plutonium. The principal driver for this goal is the *Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning the Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation*, signed in September 2000. The program strategy is to dispose of surplus plutonium by converting it into MOX commercial nuclear reactor fuel, irradiating it in commercial power reactors to produce energy, and then disposing of the spent fuel in accordance with the Nuclear Waste Policy Act. NNSA will construct three facilities at SRS to implement this program:

- Pit Disassembly and Conversion (PDC) is being designed to disassemble nuclear weapons pits and convert plutonium metal from pits and non-pit plutonium metal and oxides to unclassified oxide material suitable for MOX fuel. DOE is working in collaboration with NNSA to develop and implement comprehensive and long-term plans for consolidation, safe storage and disposition of plutonium.
- MOX Fuel Fabrication Facility (MFFF) is being constructed to chemically purify the plutonium oxide feed, mix plutonium oxide with depleted uranium oxide and manufacture commercial nuclear fuel assemblies.
- Waste Solidification Building (WSB) is being constructed to solidify the MFFF and PDC liquid waste streams and ship a solid waste form to an approved disposal facility.

The MFFF and WSB projects are currently under construction and are expected to be ready to introduce their first radiological materials in FY 2016. The plutonium oxide feed is divided into two categories depending on the feed origin; plutonium derived from dismantled weapons and plutonium derived from cleanup of weapons facilities. NNSA is also evaluating sending additional weapon grade plutonium materials to MFFF, beyond the current mission quantity of 34 MT, in order to assure a disposition path for these legacy materials and any future declarations of surplus materials.

Another goal of the program is to work with agencies worldwide to reduce and protect vulnerable nuclear and radiological material located at civilian sites. The goal is preventing terrorists from gaining access to materials that could be used in weapons of mass destruction or other acts of terrorism. At SRS, the focus of the program is removal and disposal of U.S. origin HEU and LEU from research reactors around the world.

Through several international programs, SRNL is helping to develop and deploy nuclear detection, inspection, and monitoring equipment worldwide. SRS assists in removal and disposal of excess or abandoned radiological materials in other countries where they may not be appropriately safeguarded.

### Nuclear Nonproliferation Strategic Objectives

- Design, build, and operate facilities to convert nuclear weapons components to commercial nuclear MOX fuel
- Provide research and development and management support for the U.S.–Russia nuclear nonproliferation agreement that provides for the safe, secure return and disposition of weapons grade nuclear material from various countries to the United States and Russia
- Maintain flexibility within the facilities to accept and process new plutonium sources and to develop capability to manufacture new nuclear fuel types as the need arises
- Work with agencies worldwide to secure spent fuel and other nuclear materials
- Deploy nuclear detection, inspection and monitoring equipment worldwide

## Savannah River National Laboratory Mission

SRNL “puts science to work” to create and deploy practical, high-value, cost effective technology solutions. In 2006, SRNL was designated as the DOE Office of Environmental Management’s Corporate Laboratory to provide critical technical solutions to enable and accelerate meeting the nation’s environmental cleanup requirements. As the applied research and development laboratory at SRS, SRNL serves DOE and the nation by helping to complete missions at SRS, throughout DOE, in other federal agencies, across the country and around the world. DOE’s vision for SRNL is to be the nation’s premier applied science laboratory in Environmental Management, National and Homeland Security, and Energy Security by delivering world-class innovative performance in national defense and homeland security technologies, alternative energy technology and cleanup.

SRNL’s key roles are to address the challenges of cleaning up the environmental legacy of the nation’s weapons program and provide key support for national security, homeland security and energy security objectives; to utilize technical expertise to provide vital national and regional support in promoting U.S. energy independence and the broader goals of DOE; to assist U.S. industry with global competitiveness; to support the safe and efficient cleanup of SRS; and to provide technical leadership for future SRS missions.

### SRNL Strategic Objectives:

- Position SRNL for transition into a financially self-sustaining, distinct business unit
- Establish SRNL as a preferred partner for industry, universities and small businesses in developing leading edge technologies in support of industrial, economic and educational strength of the United States
- Expand and mature SRNL’s role as the EM Corporate Laboratory and lead a growing EM Engineering and Technology program to reduce the risk associated with legacy defense nuclear and industrial cleanup
- Develop and implement major new initiatives in the form of Centers of Excellence to provide science-based approaches to the DOE-EM mission
- Establish SRNL in a leadership role for hydrogen storage, production and delivery technology development
- Translate SRNL’s historic strength in hydrogen storage and materials science into the basis for a new generation of robust, long-life, energy storage technologies
- Develop regional, national, and global partnerships that extend SRNL’s capability to utilize biotechnology and renewable energy sources to achieve sustainable energy independence
- Apply skills developed in environmental management and atmospheric sciences to develop new and innovative approaches to carbon cycling, attribution, capture, and sequestration
- Continue SRNL’s leadership role in tritium technology and component evaluation programs that ensure the safety and reliability of the nation’s nuclear deterrent
- Expand SRNL’s role in providing critical intelligence collection, analysis, and products that enable best-informed decisions by federal agencies and policy makers
- Become a highly valued applied science resource for National Security and Homeland Security agencies fighting threats from terrorism
- Enhance SRNL’s impact on global security through broad participation in the nation’s nuclear nonproliferation efforts
- Establish a sustainable Department of Defense support effort in conjunction with appropriate partner institutions and companies
- Secure additional sponsors, missions, and funding, including development of enduring funding sources, to support laboratory infrastructure to meet needs for future growth while sustaining safety performance excellence

*SRNL’s three-fold mission is to enable the success of SRS operations; to provide technical leadership for future site missions; and to utilize its technical expertise to provide vital national and regional support in achieving the broader goals of DOE and the federal government in a safe manner.*



SRNL research

# Critical Support Functions

EM is responsible for oversight of critical support functions that serve all DOE missions and tenants at SRS. These include safety and security programs, Site services and infrastructure and environmental quality. These major functions and their strategic objectives are described in the following sections.



*Emergency Preparedness drill*

## Safety and Security

The Safety and Security Program ensures appropriate levels of protection for the health and safety of employees, the public, and the environment against theft and diversion of Special Nuclear Material; acts of radiological, chemical, and biological sabotage; espionage; theft or loss of classified matter; theft or loss of government property, and other hostile acts that may cause unacceptable impacts to national security. The WSI-SRS Team provides protective forces and law enforcement. The management and operations contractor, Savannah River Nuclear Solutions, provides security system maintenance and site programs for personnel security; nuclear material, control and accountability; cyber security; information security; and vulnerability assessment programs.



*Roads and grounds are included in Site Services and Infrastructure operations.*

## Strategic Objectives

- Integrate safety and security into every element of mission accomplishment, and enhance the “safety first” culture to safeguard employees and assets
- Establish safety programs and processes that continuously improve safety and security performance
- Ensure that SRS Emergency Preparedness processes, systems and organizations meet all federal and state requirements

## Site Services and Infrastructure

Site Services and Infrastructure provide capacities and resources to meet current EM and NNSA missions as well as future SRS mission needs. The scope of Site Services and Infrastructure operations includes roads and grounds, utilities operations, shop services, field maintenance services, portable equipment management operations, rigging and cranes, engineering and technical support, building operations, real property asset management, soil and groundwater operations, space utilization management, transportation and work management.



*Badge check by a member of the WSI-SRS Team*

## Strategic Objectives

- Install a new Biomass Cogeneration Facility to replace existing coal-fired cogeneration plant by the end of 2011
- Improve and maintain Site infrastructure
- Manage technical challenges of aging systems and equipment to avoid risk of outages and mission disruptions
- Develop and implement a plan to reduce greenhouse gas emissions at SRS
- Incorporate long-term Site legacy management activities under regulatory requirements and DOE Orders into Site planning

## Environmental Quality

Sound stewardship of Environmental Quality through a consistent Site-wide environmental management system is a fundamental operating premise at SRS. EM implements a systematic planning, integrated execution, and continuous evaluation and improvement process to manage compliant programs and projects regarding pollution prevention, control and abatement, environmental monitoring and environmental permitting, as well as timely reporting and notifications. All regulatory commitments in environmental permits, cleanup agreements and decision documents are tracked to assure completion in accordance with regulatory requirements and deadlines.

EM manages policy development and program planning for integration of compliance strategies, environmental monitoring and management of SRS natural and cultural resources. EM serves as the cross-cutting integrator for all Site interactions with federal and state environmental oversight and regulatory agencies, and coordinates the delegations of approval authorities for environmental documents. The EM field-focal-point coordinates with DOE Headquarters on all environmental negotiations of new or changing enforceable milestones and commitments.

EM coordinates and oversees SRS natural resource management programs, the Savannah River Ecology Laboratory (SREL), the Crackerneck Wildlife Management Area and Ecological Reserve, the National Environmental Research Park, and the Savannah River Archaeological Research Program, including coordination with the State Historic Preservation Officer.

SRS was named as a National Environmental Research Park in 1972. To maintain and ensure the sustainability of these national assets, DOE actively partners with the U.S. U.S. Department of Agriculture Forest Service and the University of Georgia to ensure environmentally favorable management of the resources.

With the assistance of the USDA Forest Service–Savannah River (USFS-SR), DOE implements a comprehensive program of natural resource management for SRS. USFS-SR activities including wildfire suppression; prescribed fire treatment; threatened, endangered, and sensitive species management; invasive species control; forest products management and sales; watershed protection; natural resource research; boundary maintenance; and secondary roads management.

SREL operations are managed through a cooperative agreement between DOE and the University of Georgia Research Foundation. SREL evaluates ecological resources and applies ecological science to help DOE and other SRS organizations better understand Site environmental problems.

### Strategic Objectives:

- Ensure protection of human health and the environment is factored into mission development and execution
- Maintain compliance with environmental permits, cleanup agreements and decision documents
- Integrate Site-wide regulatory permitting strategies to ensure operational and future mission flexibility
- Promote long-term stewardship of SRS natural, archeological and cultural resources
- Manage the Site focusing on objectives of “Greening the Government” and setting an example for industry in environmentally friendly industrial activities



*Pitcher plant at SRS: results of successful use of prescribed burns*



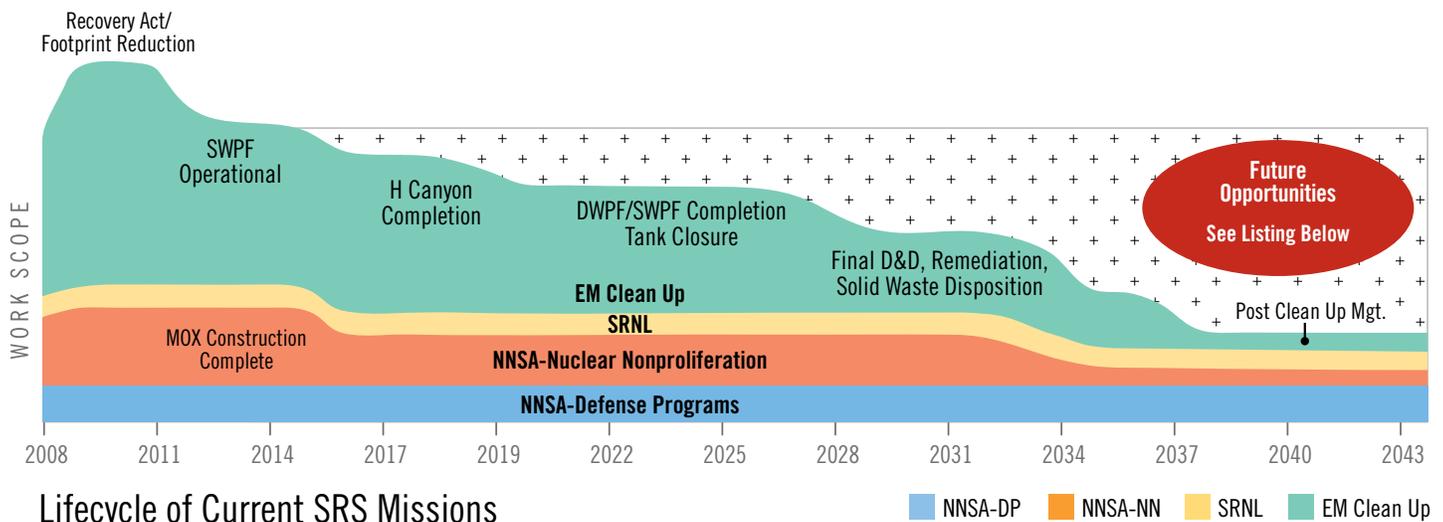
*Inserting an artificial cavity in longleaf pine for red-cockaded woodpecker nesting*

# Future SRS Missions and Opportunities

While the current primary missions at SRS are clean up and nuclear security, additional opportunities for the Site are being developed. Environmental cleanup is making the Site safer, more available and more adaptable for future use. As SRS moves forward to accomplish current missions, including accelerated cleanup enabled by the 2009 American Recovery and Reinvestment Act, it will position itself to leverage existing technical and operational capabilities and assets to attract productive and beneficial alternatives.

The highly trained and experienced contractor and federal employees at SRS provide a flexible and adaptable workforce capable of meeting new assignments. With more than 310 square miles of government-owned land area, excellent transportation links and extensive infrastructure, SRS provides the foundation to accommodate a wide range of federal initiatives and new missions for both DOE and other national organizations.

In addition, SRNL is a key asset whose nearly 60-year heritage of applying science to meet the needs of DOE and the nation distinguishes it from the other DOE national laboratories. This position enables SRNL to provide a unique service to the nation in the translation of basic research into practical application. Overall growth and expansion of the application of SRNL expertise and technologies to solve critical national issues, especially in the areas of national security and secure, sustainable energy, are key opportunities for SRS.



## Specific potential future opportunities for SRS to continue to support DOE as missions evolve are:

- Expansion of research for hydrogen fuel production in support of the national priority to develop sources of clean, secure energy.
- Development of energy parks at SRS for potential demonstrations of renewable and alternative energy solutions
- Collaboration of EM and NNSA capabilities to expand the nation’s ability to convert weapons-grade nuclear materials to usable commercial nuclear fuel
- Research and development of technologies for global nuclear nonproliferation and international safeguards
- Research and technical support to Homeland Security, the FBI and other Federal agencies
- Development of technological solutions for DOE complex-wide legacy waste environmental cleanup challenges
- Development and demonstration of technologies and management strategies associated with the life cycle of used nuclear fuel
- Expansion of SRNL’s tritium and light element research and development capability and establishment of SRS as a hub of associated technology and component testing
- Training facility for the U.S. Army
- Training Center of Excellence for the National Guard

# Management Excellence and Plan Execution

## Management Excellence

Effective management enables achievement of the DOE strategic goals and is essential to the safe, secure and reliable execution of the missions at SRS. Management Excellence extends to integrating federal and contractor workforce expertise, technology, business processes and procedures, and physical assets to optimize the multi-mission and multi-contractor operations at SRS.

## SRS Objectives:

- Foster a corporate perspective and a teamwork culture through communication of a common vision
- Ensure the SRS workforce is diverse and appropriately sized and aligned to achieve the Site vision
- Enhance SRS leadership, administrative and technical skill base while ensuring a diverse and professional work environment
- Establish a corporate, performance-based approach to manage Site assets and resources that links planning, budgeting, implementation and evaluation to program mission projections and performance outcomes
- Implement solid financial and performance based management systems with metrics that help management to improve efficiency and sustainability
- Ensure integration of Site contractors to ensure efficient completion of missions
- Continuous improvement of Business Systems cost-effectiveness and performance through process, procedure, technology and communication enhancements
- Support development of potential future missions and opportunities for SRS



## Plan Execution

The top-level planning document for the Site is the SRS Strategic Plan. It will be used to communicate management's vision for the Site, serve as a unifying tool for all Site functions, guide the direction and completion of all other Site plans, and serve to link all Site activities to the DOE Strategic Plan. All lower level plans at SRS implement various components of the SRS Strategic Plan and are directed toward its accomplishment.

Each major Site organization, including tenant and contractor organizations, will develop and annually update implementation plans consistent with the direction of the SRS Strategic Plan. The purpose of implementation plans is to more specifically define and assign responsibility for the near-term courses of action to accomplish the DOE goals through implementation of the strategic objectives provided in the SRS Strategic Plan. These organizational plans include performance measures which are tracked to monitor progress and success.

# Acronyms

ARP	Actinide Removal Process
ARRA	American Recovery and Reinvestment Act
DOE	Department of Energy
DWPF	Defense Waste Processing Facility
EM	Environmental Management
HANM	H Area New Manufacturing Facility
HEU	Highly Enriched Uranium
HW	Hazardous Waste
LEU	Low Enriched Uranium
LLW	Low Level Waste
MCU	Modular Caustic Side Solvent Extraction Unit
MFFF	MOX Fuel Fabrication Facility
MLLW	Mixed Low Level Waste
MOX	Mixed Oxide
MT	Metric Ton
NNSA	National Nuclear Security Administration
PDC	Pit Disassembly and Conversion
R&D	Research and Development
SREL	Savannah River Ecology Laboratory
SRNL	Savannah River National Laboratory
SRS	Savannah River Site
SRNS	Savannah River Nuclear Solutions
TRU	Transuranic
U.S.	United States
USDA	U.S. Department of Agriculture
USFS-SR	USDA Forest Service–Savannah River
WSB	Waste Solidification Building

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